Trichoptera of New Zealand

I. A CATALOGUE OF THE AUCKLAND MUSEUM COLLECTION WITH DESCRIPTIONS OF NEW GENERA AND NEW SPECIES.

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ABSTRACT

This collection is largely the C. E. Clarke collection which was presented to the Museum in 1929. Specimens have been collected from various parts of New Zealand, but mostly in the south.

From 121 specimens listed, 2 new genera and 12 new species are described. Except for Helicophidae, all families hitherto recorded for New Zealand are represented.

The presence of lateral abdominal processes is recorded for the Tribe *Oeconesini* (Family *Sericostomatidae*). The Family *Beraeidae* is extended to include *Alloecentrella* n.g. in which a discoidal cell is present in the anterior wing. In *Neobiosella* n.g. (Family *Philopotamidae*) apical fork 1 is absent from both anterior and posterior wings: this is a new character for this family. The sub-family *Ecnominae* (Family *Psychomyidae*) and the genus *Ecnomina* Kimmins are recorded in New Zealand for the first time.

INTRODUCTION

This paper deals with the Trichoptera collection of the Auckland Museum. The basis of this collection is the C. E. Clarke collection which was donated to the Museum in 1929. Additional specimens have mainly been collected by A. Philpott and E. G. Turbott.

Dr. G. Archey, Director, and Mr. E. C. Turbott, Ornithologist and Entomologist, Auckland Museum, have kindly made the collection available to the author.

From the 121 specimens examined 2 new genera and 12 new species are described, and 1 genus is recorded in New Zealand for the first time. These, in addition to genera and species recorded by Mosely and Kimmins (1953) and McFarlane (1956), bring the totals for New Zealand to 39 genera and 107 species.

The Subfamily *Ecnominae* (Family *Psychomyidae*) is recorded in New Zealand for the first time.

All specimens, including types, remain in the Auckland Museum. On the back of each of the author's identification labels is the author's specimen number. These numbers will serve to correlate prepared genitalia in alcohol with the pinned adult specimens from which they came.

Unless otherwise stated all specimens have been collected by C. E. Clarke.

Rec. Auck. Inst. Mus. Vol. 5, No. 1 & 2, p.p. 49-63, 14th May, 1958

FAMILY SERICOSTOMATIDAE

Pycnocentria funerea McLachlan.

1866—*Pycnocentria funerea* McLachlan, *Trans. ent. Soc. Lond.*, 5:252.

Raurimu: 16.1.1919, 1♀. Waimarino: 26.1.1919, 1♂. Kauri Gully: 9.1.1919, 1♀; 12.1.1919, 1♂; 13.1.1919, 1♀.

Beraeoptera roria Mosely

1953—*Beraeoptera roria* Mosely, *Trichoptera of Australia and New Zealand*, p. 53.

Waitati: 2.XI1.1917, 1♂ (genitalia in alcohol).

Pycnocentrodes chiltoni Tillyard

1924—*Pycnocentrodes chiltoni* Tillyard, *Trans. N.Z. Inst.*, 55:309. Waitomo: 25:XII:1916, 1♂. Pembroke: 22:III:1923, 1♂. Ohakune: 24:XII:1916, 1♀.

Pycnocentrodes aeris n. sp. Fig. 1.

ANTERIOR WING almost colourless, markings pale testaceous being two elongate transverse dots near base and two parallel transverse lines arising where Sc and R_1 meet the costa and finishing at two-thirds where they join abruptly and continue as a single line almost to the dorsum just before the tornus. POSTERIOR WING almost colourless. WING VENATION. Differs mainly from *P. aureola* (McLachlan) in the posterior wing where R_2 and R_3 arise separately, as in *P. chiltoni* Tillyard, and from *P. chiltoni* in the anterior wing where apical fork 3 is fully formed, as in *P. aureola*.

Length of anterior wing, 7-10 mm.

Genitalia♂. Very close to *P. aureola* except that the spurs of the penis arise from its apex which is truncate and slightly bifid above. The spurs are moderately long, straight, and lie along each side of the penis.

Holotype♂. Kinloch: 15.1.1926 (genitalia in alcohol).

Paratypes. Leith: 15.X1.1916, 1♂; 30.X1.1916, 1♂. Waitati: 25.X1.1917, 1♂.

A very pale species which is mainly separated from *P. aureola* and *P. chiltoni* by the colour and pattern of the anterior wings.

Pycnocentrodes unicolor n. sp. Fig. 2.

ANTERIOR WING and POSTERIOR WING uniform fuliginous, without markings.

Length of anterior wing, 7 mm.

Genitalia♂. Very close to *P. aureola* (McLachlan) except that the spurs of the penis arise from its apex which is truncate. The spurs are short, curved, and point upwards and outwards.

Holotype♂. Hump Mt., 2.1.1922 (genitalia in alcohol).

A dark species which is mainly separated from other species by the colour and lack of pattern in the anterior wing.

Tribe Oeconesini.

On all males of various species of *Oeconesus, Pseudoeconesus,* and *Zelandopsyche,* seen by the author, there are a pair of lateral processes at the base of the fifth abdominal segment. This character has not previously been recorded for any species of these genera. In addition to the species recorded below this character is now recorded for *Oeconesus maori* McLachlan and *Zelandopsyche ingens* Tillyard.

Oeconesus lobatus n. sp. Fig. 3.

Length of anterior wing, 13 mm.

Abdomen ♂. Fifth abdominal segment with a pair of lateral processes.

Genitalia ♂. Dorsal margin of ninth segment produced in two large rounded lobes with a slight transverse ridge across their bases. Beneath each lobe is a narrower process directed slightly upwards. Upper penis-cover large, produced upwards, narrowly excised to form two forks lying parallel and very close together, these forks being truncate in dorsal view. Inferior appendages three-jointed, a stout basal joint with two terminal joints arising from its inner surface, one membranous and finger-shaped, the other more strongly chitinised, sharply excised ventrally towards the apex, directed inwards, and with a small tooth at apex. Penis membranous, expanded at apex with a chitinised process on each side pointing latero-ventrally, and with some chitinisation at the opening of the ejaculatory duct.

Holotype ♂. Raurimu: 16.1.1919 (genitalia in alcohol).

Differs little from *O. maori* McLachlan except in the genitalia. Mosely (Mosely and Kimmins 1953, p. 98) considered that venation should be used for the separation of species in *Oeconesus* but in this species there are sufficient differences in the genitalia to warrant its separation from other described species.

Oeconesus similis Mosely

1953—*Oeconesus similis* Mosely, *Trichoptera of Australia and New Zealand,* p. 103.

Mt. Arthur: Flora creek, 18.1.1920, 1 ♂ (genitalia in alcohol), *(G. V. Hudson).*

This specimen was collected from the type locality at the same time as the holotype specimen.

Oeconesus sp.

Dunedin: Opoho, 3:XII:1918, 1♀.

This specimen cannot be specifically determined, as females of all species of *Oeconesus* are not yet known. It differs from known females in that apical fork 3 of the posterior wing is absent.

Pseudoeconesus stramineus McLachlan

1894—*Pseudoeconesus stramineus* McLachlan, *Ent. Mon. Mag.,* 30:240.

Hump Mt.: 2.1.1922, 1 ♂ 1♀.

Pseudoeconesus bistirpis n. sp. Fig. 4.

Testaceous; ANTERIOR WINGS closely irrorated with rows of almost colourless spots between the veins. WING VENATION. Apical forks of anterior wing sessile. Apical forks 1 and 3 of posterior wing stalked. Sc and R_1 of posterior wing folded together for most of their lengths.

Abdomen ♂. Fifth abdominal segment with a pair of lateral processes.

Length of anterior wing, ♂ 10 mm. ♀ 15 mm.

Holotype ♂. Tongariro: 16.1.1930 (genitalia in alcohol) *(A. Philpott)*.

Paratype ♀. Tongariro: 16.1.1930, *(A. Philpott)*.

The ♂ genitalia cannot be differentiated from that of *P. stramineus* McLachlan and the following species. Mosely (Mosely and Kimmins, 1953, p. 108) considered that venation should be used to separate species in *Pseudoeconesus* and this species is separated on that basis.

Pseudoeconesus tristirpis n. sp. Fig. 5.

Pale testaceous; ANTERIOR WINGS closely irrorated with rows of almost colourless spots between the veins. WING VENATION. Apical fork 3 of anterior wing stalked. Apical forks 1 and 3 of posterior wing stalked.

Abdomen ♂. Fifth abdominal segment with a pair of lateral processes.

Length of anterior wing, 11 mm.

Holotype ♂. Tongariro: 16.1.1930 (genitalia in alcohol) *(A. Philpott)*.

The ♂ genitalia cannot be differentiated from that of *P. stramineus* McLachlan or *P. bistirpis*.

Olinga feredayi (McLachlan)

1868—*Olinx feredayi* McLachlan, *J. Linn. Soc. (Zool.), London*, 10:198-199.

Nelson: 21:X:1923, 1 ♂ *(A. Philpott)*; 14:XI:1926, 1 ♀, *(W. Heighway)*; 11:XI:1927, 1 ♂ 1 ♀. Waitati: 11:XII:1914, 1 ♂; 25:XII:1915, 2 ♂ ♂.

It should be noted that McLachlan (1868) recorded the spur formula as 2.2.4 which is misquoted by Mosely and Kimmins (1953) as 2.4.4. All specimens of this species seen by the author bear spurs to the formula of 2.2.4.

Olinga fumosa n. sp. Fig. 6.

ANTERIOR WING fuscous; scales of longitudinal fold and sub-terminal furrow ochreous. Membranes of both anterior and posterior wings fumose.

Spurs 2.2.4.

Length of anterior wing, 8 mm.

Genitalia ♂. Margin of ninth segment with a pair of long dorsal processes with a wart on each side and a pencil of hairs below the wart.

Dorsal portion of ninth segment produced downwards posteriorly with upper penis-cover in form of two short processes arising distally below. Penis membranous. Inferior appendages broad at the base and twisted over dorsally towards the apex, each with a long, sinuous, pointed spine arising from its extreme base. These spines pass on each side of the penis and terminate above it between the penis-cover processes.

Seventh sternite with a short, broad process.

Holotype ♂. Waitati: 28.X1.1917 (genitalia in alcohol).

Similar to *Olinga feredayi* (McLachlan) but smaller and darker and with differences in the genitalia and process of the seventh sternite.

FAMILY PHILANISIDAE

Philanisus plebeius Walker

1852—*Philanisus plebeius* Walker, *Cat. Neur. Ins. Brit. Mus.*, 1, p. 116.

Three Kings Islands: Great Island, at light, 26.1V.1946, 1 ♂; 27.1V.1946, 2 ♂ ♂, *(E. G. Turbott)*: Great Island, Castaway Valley, at light, 30.XII.1952, 1 ♂ *(J. S. Edwards)*. Little Barrier Island: at light, 27:XI:1954, 2 ♂ ♂ 1 ♀ *(K. A. J. Wise)* (in alcohol).

Specimens taken at Little Barrier Island were previously recorded by Wise (1956).

FAMILY BERAEIDAE

Alloecentrella n. gen.

ANTERIOR WING. Discoidal cell closed. Apical forks 1, 2, 3 present. Cubitus, and consequently apical fork 5, entirely absent. POSTERIOR WING. Venation much reduced. Radial sector entirely absent. Only apical fork 5 present.

Both wings with a short fold near base of Sc and R.

Spurs 2.2.4.

Type species. *Alloecentrella magnicornis* n. sp.

The type species is of Beraeid form and the genus is included in this family despite the presence of discoidal cell in the anterior wing. Because of this character the species could be placed in the Family Helicophidae Mosely (Mosely and Kimmins, 1953) but not in either of the two existing genera of that family. However other characters place the species in the Family Beraeidae. In both the Beraeidae and the Helicophidae the venation is extremely variable and the ♂ genitalia are similar in general form. The presence of the discoidal cell in the anterior wing of the type species may indicate an affinity between the two families. This character separates the genus from all others in the family and requires an extension of the family definition.

Alloecentrella magnicornis n. sp. Figs. 7, 8.

HEAD. Below and behind each eye an elongate wart with black hairs. A wart bearing long blackish setae behind each antenna. A

wart bearing a short brush tuft of fuscous hairs in front of each antenna and between these a similar brush tuft of fuscous hairs arises. ANTENNAE. First joint slightly longer than head with moderately long fuscous and fulvous hairs. Remaining joints with ochreous hairs —not annulated. MAXILLARY PALPI five-jointed, the two short basal joints with moderately long ochreous hairs, apical joints with short ochreous pubescence. THORAX black, shining. WINGS. Hairs of both wings uniform fuscous—no pattern. ABDOMEN blackish, each tergite pale posteriorly.

Length of anterior wing, 5 mm.

Genitalia ♂. Ninth segment produced in a bifid dorsal plate, each arm being excised dorsally towards the apex, the upper angle before the excision bearing a long bristle. Below is what appears to be a compound penis-cover surrounding the penis. Basally it arises from the dorsal plate above and spreads out in two flaps, one on each side of apical portion of plate, to become trough-like, U-shaped in cross-section, at the apex. In caudal and ventral views it is seen to be entire below. Inferior appendages large, bifurcate, the upper arm being twisted inwards at the apex, the lower branch turned sharply inwards near the apex. Base of each inferior appendage produced inwards ventrally in a rounded plate. Eighth segment bears a pair of warts dorsally. Seventh sternite without process.

Holotype ♂. Waitakere: 28.X.1934 (genitalia in alcohol) *(Anon.)*.

The genitalia is of similar form to that of *Alloecella warneri* Mosely and the penis is obscure as in that species.

Pycnocentrella eruensis Mosely

1953—*Pycnocentrella eruensis* Mosely, *Trichoptera of Australia and New Zealand*, p. 145.

Rangataua: 6.1.1919, 1 ♂ (genitalia in alcohol).

FAMILY PHILORHEITHRIDAE

Philorheithrus agilis (Hudson)

1904—*Pseudoeconesus (?) agilis* Hudson, *New Zealand Neuroptera*, pp. 64-65.

Wainuiomata: Over creek above reservoir in dense forest, 24-25.X1.1898, 1 spec. (posterior wings and abdomen missing) *(G. V. Hudson)*.

This specimen only bears a label "58b" in G. V. Hudson's handwriting. The above data is taken from Hudson's catalogue. Specimens 58a and 58c in his collection have the same data in the catalogue.

FAMILY LEPTOCERIDAE

Subfamily TRIPLECTIDINAE

Triplectides cephalotes (Walker).

1852—*Leptocerus cephalotes* Walker, *Cat. Neur. Brit. Mus.*, 1:73.

No data, 1 ♂.

Triplectides obsoleta (McLachlan)

1862—*Pseudonema obsoleta* McLachlan, *Trans. ent. Soc. Lond.*, 1:305-6.

Rotorua: 28.XI1.1916, 1♀. New Plymouth: 1.X.1916, 1♂. Dunedin: Opoho, 10:XII:1918, 1♀; Lake Moana: 16, 21:XII:1925, 1♀ *(A. Tonnoir)*.

Triplectidina oreolimnetes (Tillyard)

1924—*Triplectides oreolimnetes* Tillyard, *Trans. N.Z. Inst.*, 55:306-7.

Tongariri: 16.1.1930, 1♂, *(A Philpott)*.

Hudsonema amabilis (McLachlan)

1868—*Tetracentron amabile* McLachlan, *J. Linn. Soc. (Zool.), London*, 10:201-2.

Whangarei: Waikaraka Valley, 16:I:1927, 1♀. Waitati: 2:XII:1917, 1♂. Dunedin: Opoho, 6.X.1917, 1♂ (genitalia in alcohol). Routeburn R.: 20:I:1926, 1♂ (abdomen missing). Takahe Valley: 17:II:1953, 3 ♂♂ 1♀ *(E. G. Turbott)*.

Hudsonema species **A.**

L. Wanaka: Minaret Pk., 30.XI1.1923, 1♂ (genitalia in alcohol).

This specimen is unicolorous on the forewings as are two males described and figured by Mosely and Kimmins (1953) as *H. aliena* (McLachlan). It also appears conspecific with them in the ventral view of the genitalia (Mosely and Kimmins, 1953, fig. 165d) and the size, shape, and positioning of the two membraneous processes arising from the dorsal margin of the ninth segment (Mosely and Kimmins, 1953, fig. 165c). However, the inferior appendages are as described and figured by Mosely and Kimmins (1953, p. 244, fig. 167b) as a variation in the species *H. amabilis* (McLachlan). On account of these overlapping characters and because of the provisional nature of the determination of the males of *H. aliena* (see Mosely and Kimmins, 1953, p. 240) it is thought best to keep the present specimen as a separate entity until further material is available.

Subfamily LEPTOCERINAE

Oecetis unicolor (McLachlan)

1868—*Setodes unicolor* McLachlan, *J. Linn. Soc. (Zool.), London*, 10:203-204, 213.

Queenstown: 1:XI:1917, 1♂. L. Te Anau: W. Sth. Arm, 28:XII.1924, 1♂. L. Manapouri: Hope Arm, 2:I:1923, 1♂. Rotorua: street, ?:IV:1949, 1♀ *(E. G. Turbott)*.

FAMILY HYDROPSYCHIDAE

Subfamily HYDROPSYCHINAE

Hydropsyche fimbriata McLachlan

1862—*Hydropsyche fimbriata* McLachlan, *Trans. ent. Soc. Lond.*, 1:309.

Kaeo: 12.1.1927, 1♀. Waitomo: 25.XI1.1916, 1♀. No data, 1♀.

Hydropsyche colonica McLachlan

1871—*Hydropsyche colonica* McLachlan, *J. Linn. Soc. (Zool.), London,* 11:131.

Tongariro River, at light, hatcheries, 21.X.1949, 1♂ *(E. G. Turbott)*. Leith: 7.X1.1916, 1♂ 1 ♀; 12.X1.1916, 7♂♂ 2♀♀ (1♂ 1♀ genitalia in alcohol); 15.X1.1916, 2♀♀; 30.X1.1916, 1♂. Waitati: 5.X1.1916, 1♂. Dunedin. Woodhaugh, 26.X.1916, 1♂.

Hydropsyche tepoka Mosely

1953—*Hydropsyche tepoka* Mosely, *Trichoptera of Australia and New Zealand*, p. 320.

Tongariro River: at light, hatcheries, 21.X.1949, 2♂♂ 2♀♀ (1♂ genitalia in alcohol).

Hydropsyche sp.

Te Anau: South Arm, 29.X11.1924, 2♀♀.

These females do not belong to any known species.

Diplectrona bulla n. sp. Fig. 9.

HEAD black with two large, lighter-coloured warts posteriorly. PALPI and LEGS pale castaneous. ANTENNAE blackish, serrate along inner margin. ANTERIOR WING blackish, uniform in colour; two cross-veins present between costa and sub-costa.

Length of anterior wing, 7 mm.

Genitalia♂. Ninth dorsal segment slightly concave. Dorsal plate with centre of its basal margin membranous, the lateral basal margins fused to the ninth segment. It is formed by a pair of elongate rounded lobes, separated by a broadened excision, which bear bristles apically. Penis stout, with paired elongate penis-sheaths. Lower penis-cover in form of two outwardly curved pieces which, seen from the side, broaden sharply at their apices. Apical portion of penis with paired longitudinal flanges above, a blister-like sac below, and, on each side, with an anteriorly-directed elongate hook which is dilated before its apex. Inferior appendages long, slender, curved; two-jointed, apical joint short, stout, and blunt.

Abdomen with two pairs of internal reticulated sacs and a pair of short, blunt, external filaments. In the holotype specimen the body was damaged and, when treated, the two sacs on one side were loosened and are now lost.

Holotype♂. Waimarino: 27.1.1919 (genitalia in alcohol).

This species is similar to the other New Zealand species *D. zealandensis* Mosely but the genitalia, particularly the penis are more complex and serve to separate the species from all others in the genus.

FAMILY POLYCENTROPODIDAE

Polyplectropus aurifusca McFarlane

1956—*Polyplectropus aurifusca* McFarlane, *Rec. Cant. Mus.*, 7:34-36.

Waimarino: 27.1.1919, 1♂ 1♀ (♂ genitalia in alcohol).

Polyplectropus penicillus n. sp. Fig. 10.

Length of anterior wing, 8 mm.

Penis straight, not bent down. Apex divided into two long lobes with a short rounded median lobe between. Lateral lobes each with a pencil of hairs apically. Ventral flap with straight posterior margin.

Holotype♂. Dunedin: 22.X1.1916 (genitalia in alcohol).

Paratypes. Waitati: 10.X11.1916, 1♂ (genitalia in alcohol). Dunedin: Woodhaugh, 12.X.1915, 1♂. Kauri Gully: 12.1.1919, 1♂.

This species is very close to *P. puerilis* (McLachlan) from which it differs mainly in the form of the penis.

FAMILY PSYCHOMYIDAE

Subfamily ECNOMINAE

Ecnomina zealandica n. sp. Fig. 11.

HEAD fuscous; ANTENNAE ochraceous. THORAX fuscous. LEGS ochraceous. ANTERIOR WING light fuscous, fringe darker. VENATION. In anterior wing apical forks 3 and 4 sessile, the median cell extending between them. In posterior wing apical fork 3 about as long as its footstalk.

Length of anterior wing, 3.5 mm.

Genitalia♀. Terminal segments modified to form an ovipositor.

Holotype♀. Kauri Gully: 13.1.1919 (genitalia in alcohol).

The genus and sub-family are here recorded in New Zealand for the first time. The species differs from Australian species in that apical forks 3 and 4 of the anterior wing are both sessile, not stalked.

Subfamily PSYCHOMYINAE

Zelomyia trulla McFarlane

1956—*Zelomyia trulla* McFarlane, *Rec. Cant. Mus.*, 7:37-38.

North Auckland: Mangamuka Mts., 8.1.1927, 1♂ 1♀.

FAMILY PHILOPOTAMIDAE

Hydrobiosella stenocerca Tillyard

1924—*Hydrobiosella stenocerca* Tillyard, *Trans. N.Z. Inst.*, 55:289-290.

Waitati: 12.XI.1916, 1♂; 7.I.1917, 1♀; 21.III.1920, 1♀.

NEOBIOSELLA n. gen.

ANTERIOR WING short, broad, and well-rounded at apex. Apical forks 2, 3, 4, and 5 present. Discoidal cell present. Additional costal cross-vein and additional basal cross-vein between Sc and R present. POSTERIOR WING narrower than anterior wing. Apical forks 2, 3, and 5 present. Discoidal cell present.

Spurs 2.4.4.

Type species. *Neobiosella irrorata* n. sp.

The type species is characteristic of the Family Philopotamidae except for the absence of apical fork 1 in both wings. This character has not previously been recorded in this family and it distinguishes the genus from others in the family.

Neobiosella irrorata n. sp. Fig. 12.

HEAD fuscous; ANTENNAE testaceous, each segment annulated with fuscous basally. THORAX fuscous; LEGS testaceous. ANTERIOR WING light testaceous strongly irrorated with fuscous.

Length of anterior wing, 6 mm.

Genitalia♀. Abdomen terminates in a long, stout, ovipositor.

Holotype♀. Whangarei: 7.1.1927.

FAMILY RHYACOPHILIDAE

Subfamily HYDROBIOSINAE

Hydrobiosis parumbripennis McFarlane

1951—*Hydrobiosis parumbripennis* McFarlane, *Rec. Cant. Mus.*, 5:256.

National Park: Chateau, at light, 20.X.1949, 1♂ *(E. G. Turbott)*.

Hydrobiosis falcis n. sp. Fig 13.

HEAD fuscous; ANTENNAE fuscous. THORAX fuscous; LEGS dark ochreous. ANTERIOR WINGS dark testaceous.

Length of anterior wing, 12 mm.

Genitalia♂. Apical margin of eighth tergite with a membranous centre and bordered with tufts of hair. Margin of ninth tergite produced in a semi-transparent upwardly turned plate with a pair of setose processes near the base on the dorsal surface. Superior appendages long, slightly sinuous, slightly dilated before middle and at apex. Upper penis-cover in form of a pair of processes each narrowing sharply from base then slightly up-turned; apices set with short spines. Penis coiled at base with duct down-curved before apex and with various long processes. Inferior appendages branched; inner branch short, pointed, covered with small teeth on its inner surface; outer branch long, slightly sinuate in dorsal and ventral views, sickle-shaped in lateral view, with short spines on inner margin.

Holotype♂. Whakapapanui Stm.: 3,500 ft., at light, 19.X.1949, (genitalia in alcohol) *(E. G. Turbott)*.

Very close to *H. umbripennis* McLachlan and *H. parumbripennis* McFarlane. The ♂ genitalia of the three species differ from those of the other species in the genus in the form of the inferior appendages. In the present species the inner arm of each inferior appendage is much shorter, in comparison with the outer arm, than in the other two species.

Hydrobiosis harpidiosa McFarlane

1951—*Hydrobiosis harpidiosa* McFarlane, *Rec. Cant. Mus.*, 5:257.

Whakapapanui Stm.: 3,500 ft., at light, 19.X.1949, 1♂ (genitalia in alcohol) *(E. G. Turbott)*.

Hydrobiosis spp.

Tongariro R.: hatcheries, at light, 21.X.1949, 1♀ *(E. G. Turbott)*. Arthurs Pass: 2.II,1919, 1♀.

These specimens cannot be specifically identified at present as females of some species have not been described.

Psilochorema mimicum McLachlan

1866—*Psilochorema mimicum* McLachlan, *Trans. ent. Soc. Lond.*, 5:274.

Waimarino: 18.1.1919, 1♂.

Psilochorema leptoharpax McFarlane

1951—*Psilochorema leptoharpax* McFarlane, *Rec. Cant. Mus.*, 5:261.

Hoon Hay Valley: 7.II.1923, 1♂.

Synchorema zelandica Mosely

1953—*Synchorema zelandica* Mosely, *Trichoptera of Australia and New Zealand*, p. 464-5.

Otira R.: 31.1.1922, 1♂ (genitalia in alcohol).

Neurochorema armstrongi McFarlane

1951—*Neurochorema armstrongi* McFarlane, *Rec. Cant. Mus.*, 5:254.

Tongariro R.: hatcheries, at light, 21.X.1949, 1♂ *(E. G. Turbott)*.

Costachorema xanthoptera McFarlane

1939—*Costachorema xanthoptera* McFarlane, *Trans. roy. Soc. N.Z.*, 69:336-7.

Tongariro R.: hatcheries, at light, 21.X.1949, 1♂ 2♀♀ *(E. G. Turbott)*. Dunedin: Up. Leith, 13.XII.1912, 1♂ (genitalia in alcohol).

Costachorema psaroptera McFarlane

1939—*Costachorema psaroptera* McFarlane, *Trans. roy. Soc. N.Z.*, 69:335-6.

Arthurs Pass: 1.II.1922, 1♂ (genitalia in alcohol).

Costachorema sp.

Whakapapanui Stm.: 3,500 ft., at light, 19.X.1949, 3♀♀ *(E. G. Turbott)*.

Until females of all species of the genus are described these specimens cannot be specifically determined.

FAMILY HYDROPTILIDAE

Oxyethira albiceps (McLachlan)

1862—*Hydroptila albiceps* McLachlan, *Trans. ent. Soc. Lond.*, 1:304.

Auckland: 21.VII.1929, 1♂ *(A. Philpott)*. Dunedin: 9.X.1916, 1♂ 1♀. Leith: 7.X.1916, 1 spec. (abdomen missing); 7.XI.1916, 1♂.

TEXT FIG. A.

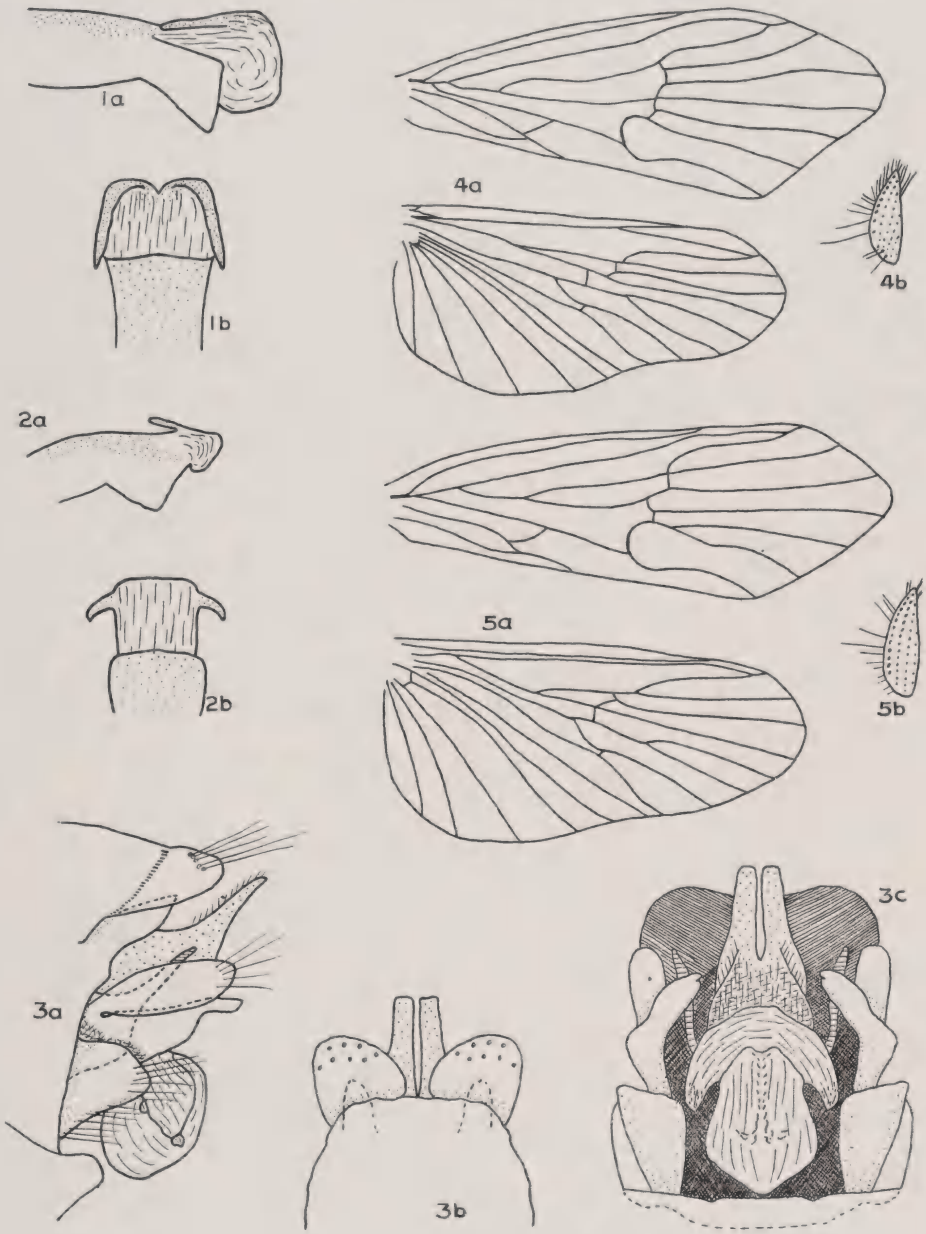

Fig. 1. *Pycnocentrodes aeris* n. sp., ♂ a. apex of penis lateral. b. apex of penis, dorsal.
Fig. 2. *Pycnocentrodes unicolor* n. sp., ♂ a.apex of penis, lateral. b. apex of penis, dorsal.
Fig. 3. *Oeconesus lobatus* n. sp., ♂ a. genitalia, lateral. b. genitalia, dorsal. c. genitalia, ventral.
Fig. 4. *Pseudoeconesus bistirpis* n. sp., ♂ a. wings, venation. b. right maxillary palp, anterior.
Fig. 5. *Pseudoeconesus tristirpis* n. sp., ♂ a. wings, venation. b. right maxillary palp, anterior.

TEXT FIG. B.

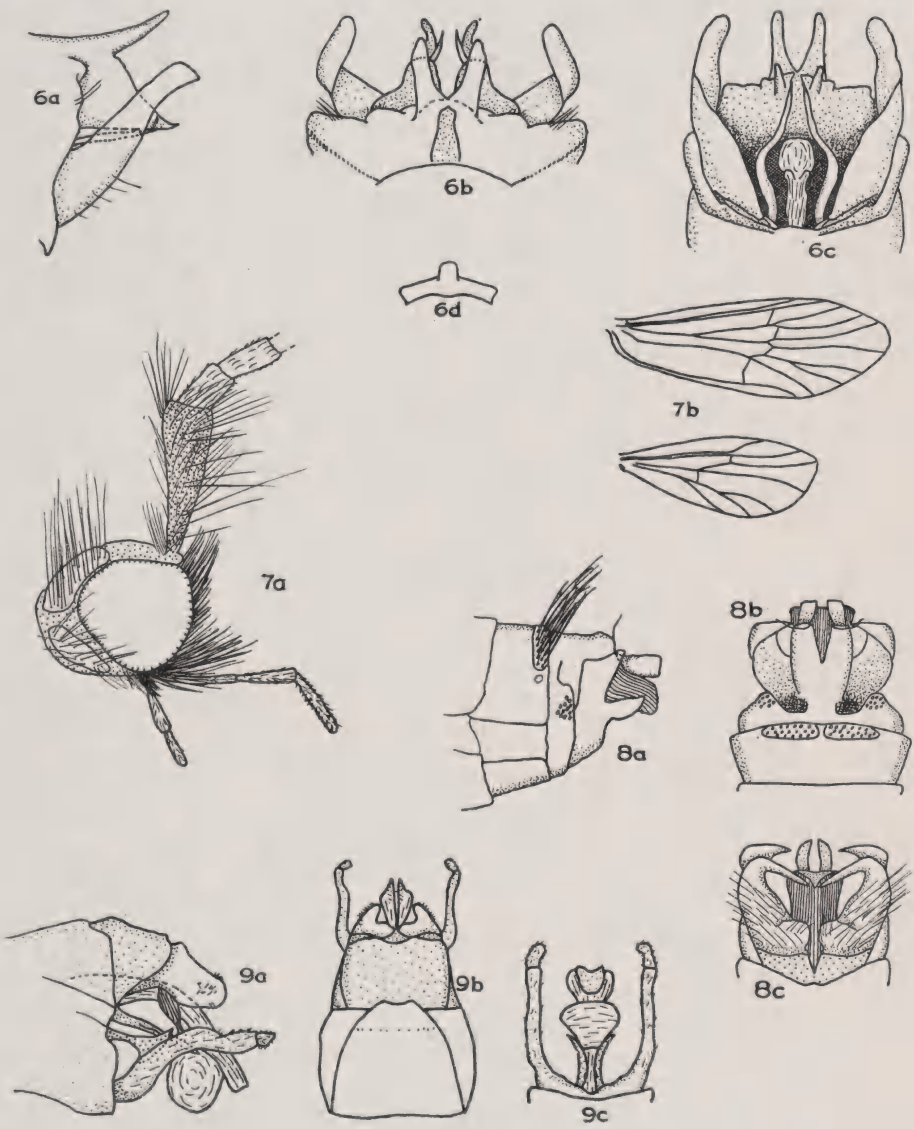

Fig. 6. *Olinga fumosa* n. sp. ♂ a. genitalia, lateral. b. genitalia, dorsal. c. genitalia, ventral. d. sternite of seventh abdominal segment.

Fig. 7. *Alloecentrella magnicornis* n. sp. ♂ a. head. b. wings, venation.

Fig. 8. *Alloecentrella magnicornis* n. sp. ♂ a. genitalia, lateral. b. genitalia, dorsal. c. genitalia, ventral.

Fig. 9. *Diplectrona bulla* n. sp.. ♂ a. genitalia, lateral. b. genitalia, dorsal. c. genitalia, ventral.

TEXT FIG. C.

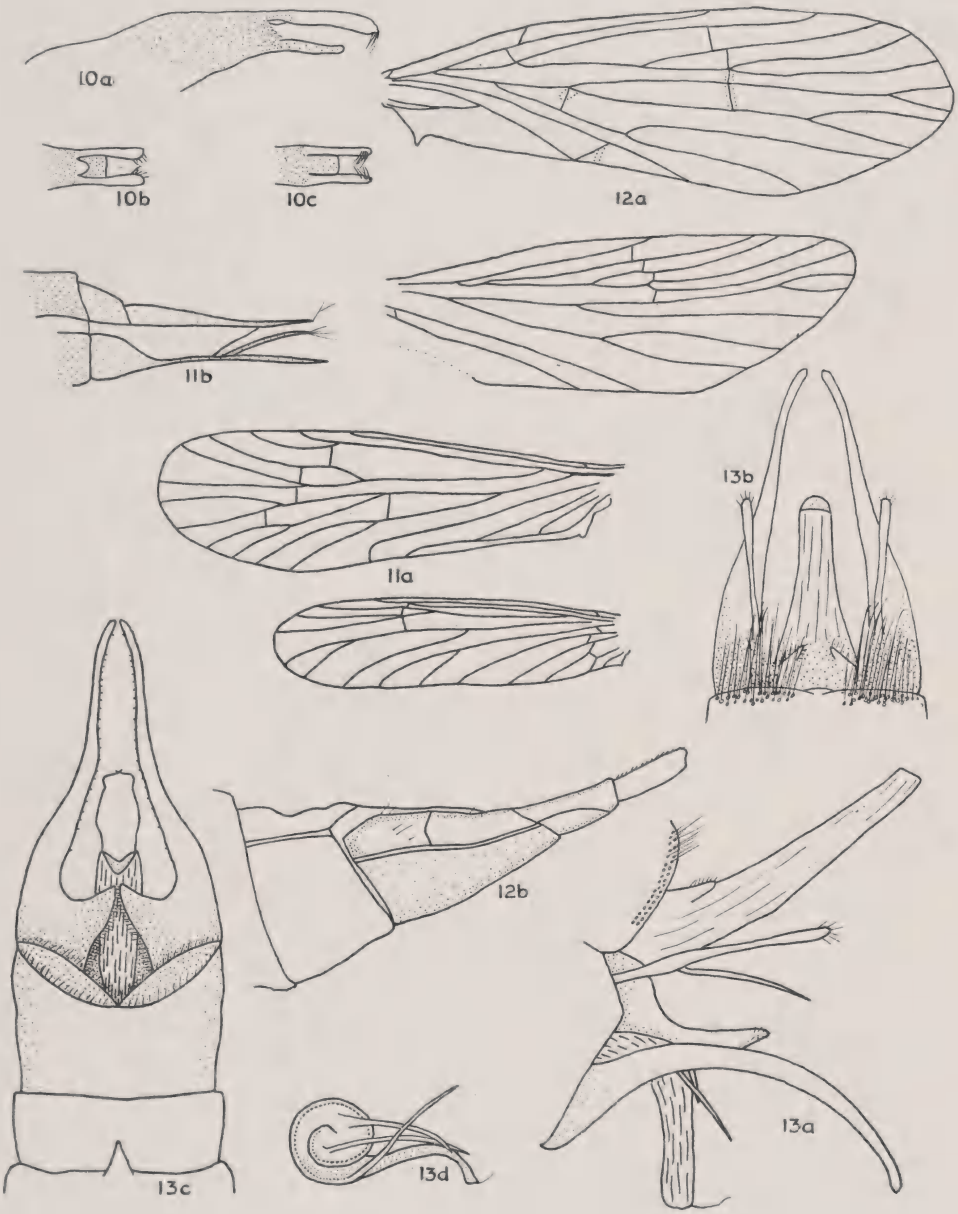

Fig. 10. *Polyplectropus penicillus* n. sp. ♂ a. penis, lateral. b. apex of penis, dorsal. c. apex of penis, ventral.

Fig. 11. *Ecnomina zealandica* n. sp., ♀ a. wings, venation. b. genitalia, lateral.

Fig. 12. *Neobiosella irrorata* n. sp. ♂ a. wings, venation. b. genitalia *(in situ)*, lateral.

Fig. 13. *Hydrobiosis falcis* n. sp., ♂ a. genitalia, lateral. b. genitalia, dorsal. c. genitalia, ventral. d. penis, lateral.

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